Sextant
End-User Manual
for DTM management

V0.2

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Versions				
Version	Author	Status	Date	Comments
V0.0	Cyril Goasduff	Préliminary version	06/12/2011	Edited for the Geoseas/Emodnet hydrography training
V0.1	Cyril Goasduff and E.Moussat	1st release on the extranet of the projects	10/01/2012	Miscellaneous corrections
V0.2	Cyril Goasduff and E.Moussat	Release for Emodnet hydrography	30/01/12	Additionnal metadata inserted : - type of catalogue (see liste SDN L231) - EDMERP Project identifier - Metadata identifier Miscellaneous modifications related to the address of the catalogue, the terminology and to edit metadata in order to aloow a wider use of the editing form.

1 Sextant management system

1. Introduction

The present document has been written for the purposes of the joint training meeting for the production of DTM within the framework of the Geo-Seas and Emodnet (Hydrography and Seabed Mapping lots) projects organized at the Ifremer Centre of Brest from the 6th to the 9th December 2011.

Several improvements have been made to allow a wider use of the catalogue and the editing form. The main modifications include :

- the use of the SDN list L231 to distinct the type of catalogue and associated metadata : the term DTM is not used anymore and is replaced by the term PRODUCT. 3 kinds of PRODUCT have been defined :
    - PRODUCT Product Metadata record providing discovery metadata for a data product such a DTM or climatology (*produced following the project methodology*)
    - CPRD Composite Product Record providing discovery metadata for a product such as a DTM which is provided by a data provider in place of their actual survey data as source for the project (*produced following another methodology than the one of the project*)
    - IPRD Intermediate Product record providing discovery metadata for a product such as a DTM which is produced following the project methodology for the construction of a final product eg a DTM delivered by partners to a regional integrator.
- the identification of the project to which the product refers , using the SDN EDMERP catalogue to allow to access to the methodology specifications of the project.
- the metadata identification allowing the creation of an URL allowing a direct link using the type of metadata, the EDMO Id of the data holding center of the product and the local Id given by this organisation to make it unique. (This identifier is generated automatically according to a syntax still to be validated at the date of this publication).

2. Sextant catalogues

Sextant allows partners and users to have an access to the functionalities of Sextant through a specific portal designed according to the requirements of each project in using a Liferay Web content management system :

a) Emodnet hydrography and Seabed Mapping

2 catalogues are created :

i. a catalogue for the description of the **DTMs used as source of data** for the

construction of the Emodnet DTMs which are **composed of multiple surveys processed according to a procedure different from the EMODNET hydrography one** . These DTMs which cannot be described in the Common Data Index of SeaDataNet (which is designed for single survey datasets) must be described in the catalogue below.

http://www.ifremer.fr/sextant/en/web/emodnet_hydrography_CPRD

The data providers partners of the Emodnet hydrography and Seabed mapping projects are the administrators of this catalogue.

Note that partners must describe **single survey DTMs in the CDI** according to the initial instructions of the Emodnet hydrography project.

ii. A catalogue for the descriptions of the **target DTMs together with WMS access services**. The entries of this catalogue will be administrated by the partners in charge of Emodnet hydrography project portal (Maris and Atlis) and the regional coordinators :

http://www.ifremer.fr/sextant/en/web/emodnet_hydrography_PRODUCT

iii. Sub-DTMs at 1/16 of minute of resolution should be described in an IPRD catalogue. The catalogue will be created after the other are described to get input from the experience gained by partners using these tools.

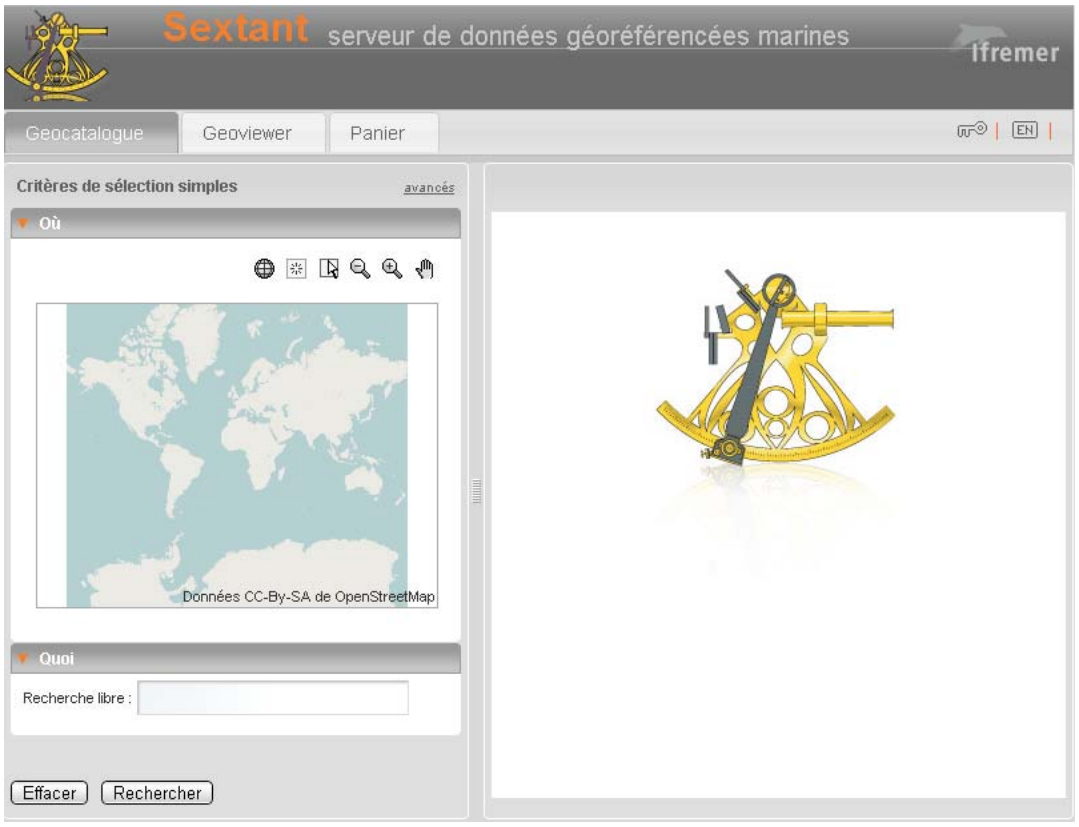


Figure 1a. First screen of Sextant (in French, without project look and feel)

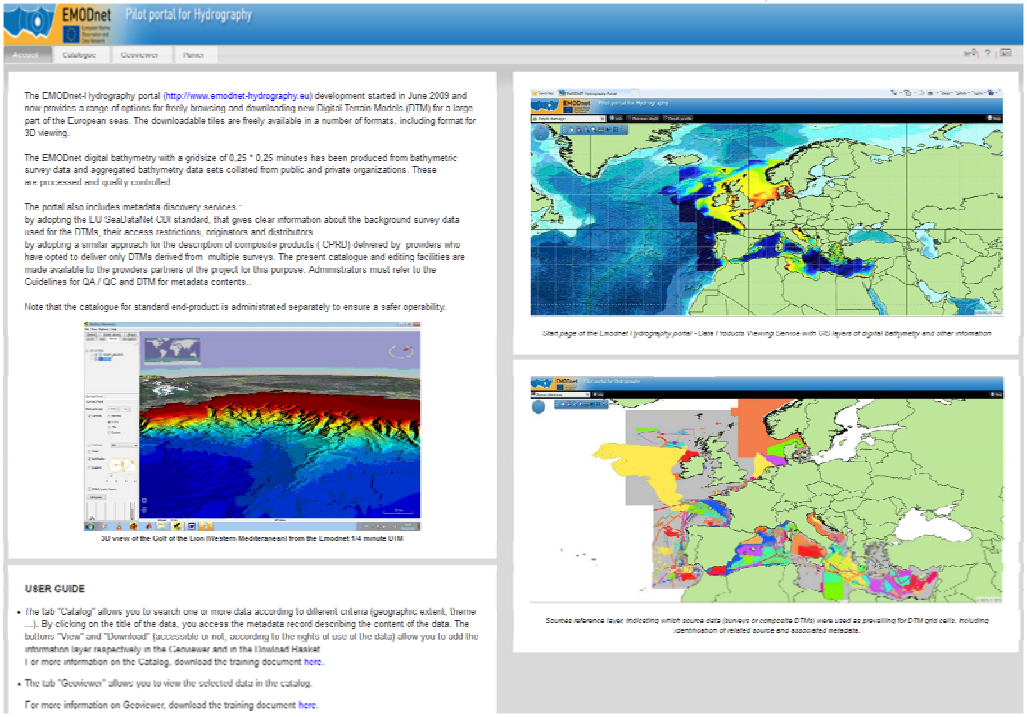


Figure 2b. First screen of Sextant with an example of the Liferay MCS portal designed for Emodnet hydrography (Composite Product Records).

b) Geoseas

For similar reasons, 2 catalogues for Geoseas to have a clear separation between DTMs produced according to the Geoseas procedure (which is a generalization of the Emodnet hydrography procedure at various resolutions) and the other built according to a different mechanism :

i. One for the description of **DTMs created with another procedure than the one specified in Geo-Seas**. Note that it is required to describe in this catalogue such DTMS (and only such ones) used as sources of data when creating “Geo-Seas” DTM.

http://www.ifremer.fr/sextant/en/web/geoseas_CPRD

ii. One for the description of the **DTMs created according to the Geoseas procedure**. This catalogue (not still created) is primiraly designed for the management of the DTMs produced as demonstrators for the Geo-Seas WP11. In addition to the description, viewing (2D using WMS, 3D using the Geo-Seas 3D viewer after having downloaded the DTM file) and downloading services (using ftp) will be offered.

http://www.ifremer.fr/sextant/en/web/geoseas_PRODUCT

NOTE : if a DTM eg a composite DTM used as source of data has to be described both in an Emodnet hydrography and a Geoseas composite DTM catalogue, fill the form of the first one and then give the appropriate “privileges” to the other catalogue (see section “Data Management in Sextant “).

3. Data access

To access to all stored metadata in a project catalogue, request them without search criterion (**1.** on figure 2).

Note that if you have made a search without being identified , you will not see anything if the DTM descriptions are not "Public". To access them, you must be logged as administrator: see section 2 - Integrating spatial data using Sextant .

Maps can also be sorted by their title ('titre'), their relevance ('pertinence') or their change date ('date de mise à jour') (**2.** on figure 3). To be easily available, we will use the same storage logic for Sextant than for web portal.

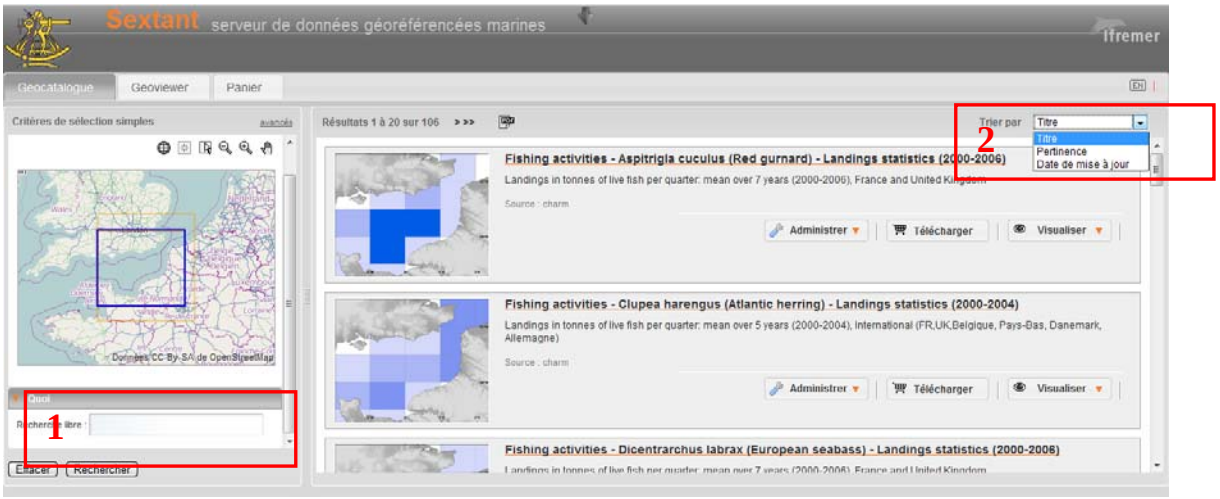


Figure 3. Catalog of a group in Sextant

Click on title of a layer's title to view the metadata. Complete metadata is easily readable by exporting in pdf or xml (**1**. on figure 4)

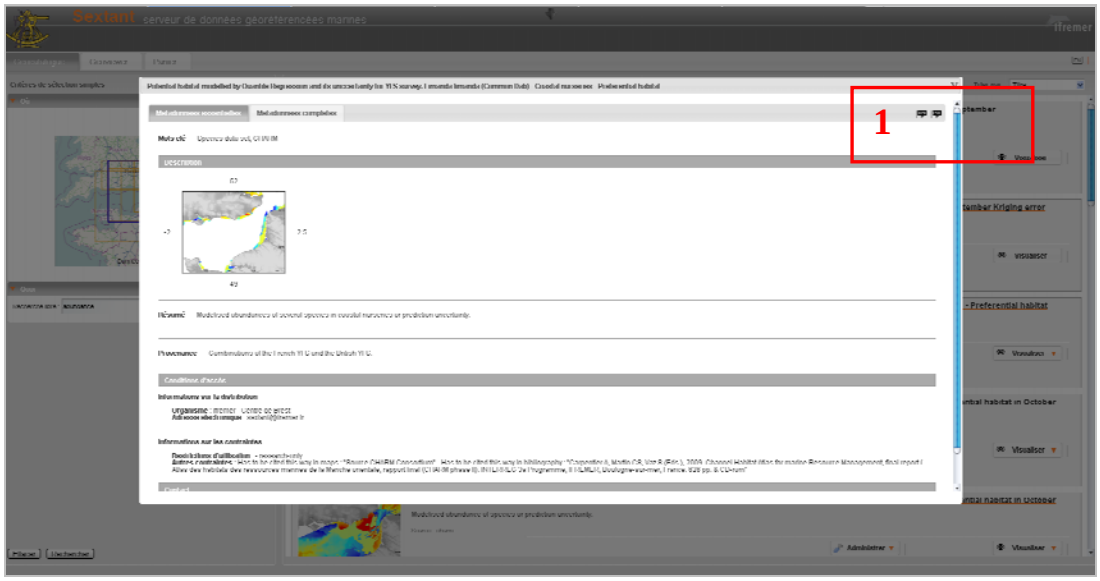
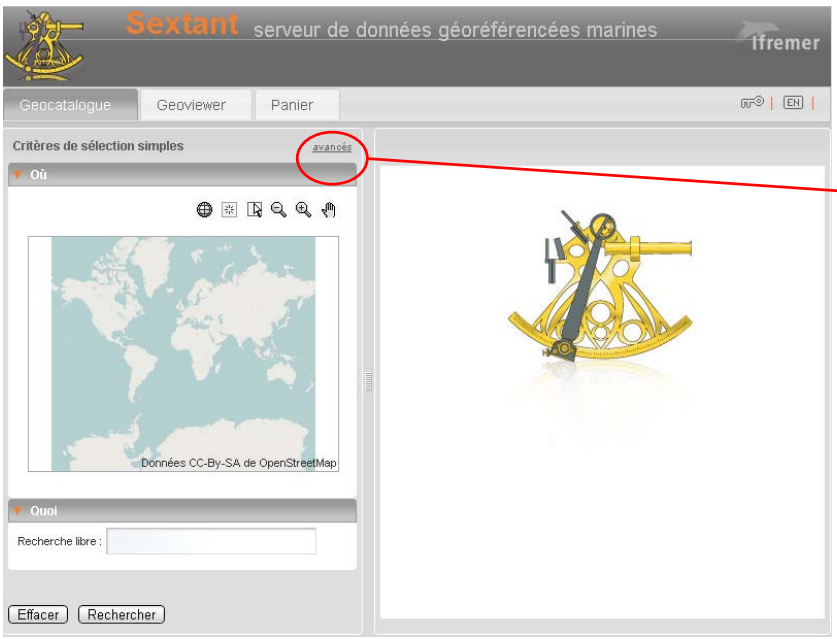


Figure 4. Metadata display

4. Avanced search

To search your metadata, you can use the default search (above) or the advance one (below). To choose this view, click on the advanced button on the search windows :

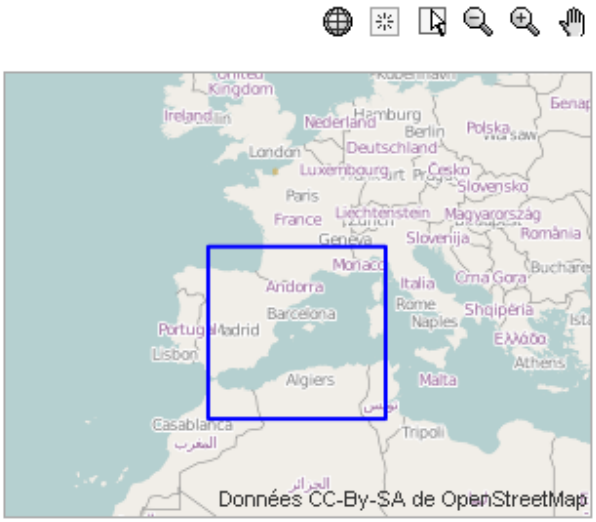


You can choose many differents criteria to search a metadata :

- Where : to search a metadata according to its geospatial information
- What : to search a metadata according to its content
- Who : to search a metadata according to its producer
- When : to search a metadata according to its date

Où

Where



Quoi

What

Recherche libre :

Free Search

Catalogue : EMODNET_HYDROGRAPHY

Thèmes :

- Milieu physique
- Réglementation et gestion

Themes/topics

Qui

Who

Organizations :

Organization

- BRGM
- CNRS
- IGN
- Ifremer
- MIMEL
- MNHN
- SHOM
- NATURA2000

Quand

When

Date de début :

Start date

Date de fin :

End date

2 Integrating spatial data using Sextant

Step 0 Geonetwork's access

To create or update new spatial data description, the end-user must be declared as " administrator" of the catalogue of your project to use the Geonetwork interface and forms designed for the purpose of the project.

The user is recognised when logging in :

http://www.ifremer.fr/geonetwork/srv/en/

Your account is the same as the one used to log in to the collaborative website.

The list of authorized users and/or administrators is managed by the Sextant team. There is at least one administrator by project and by each partner. An administrator can modify any description contained in the catalogue at the present time

Step 1 Create a new metadata

The administrator gets to the metadata administration page of Sextant and logs in from the upper right "login" button.

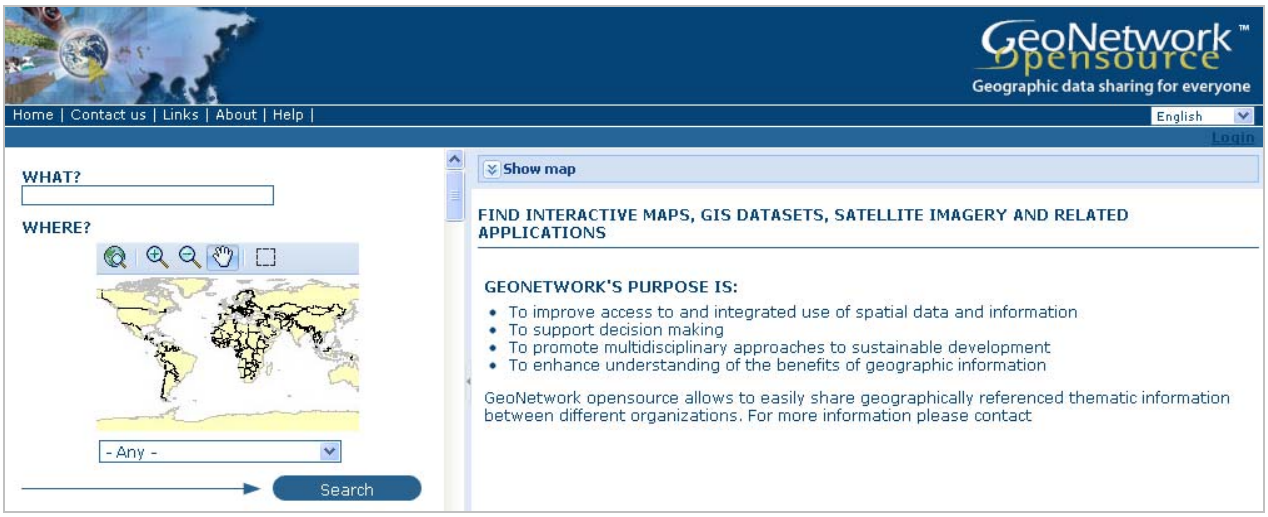
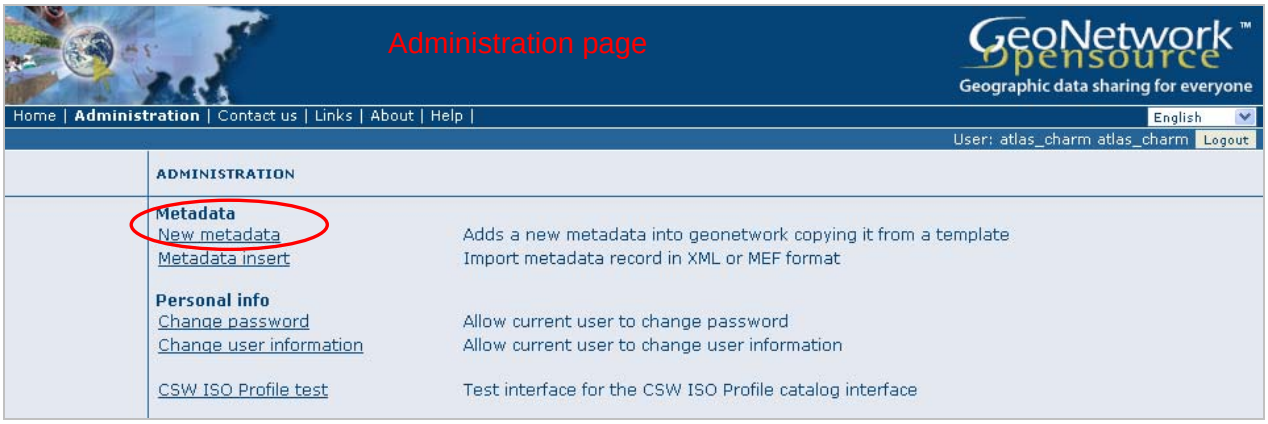
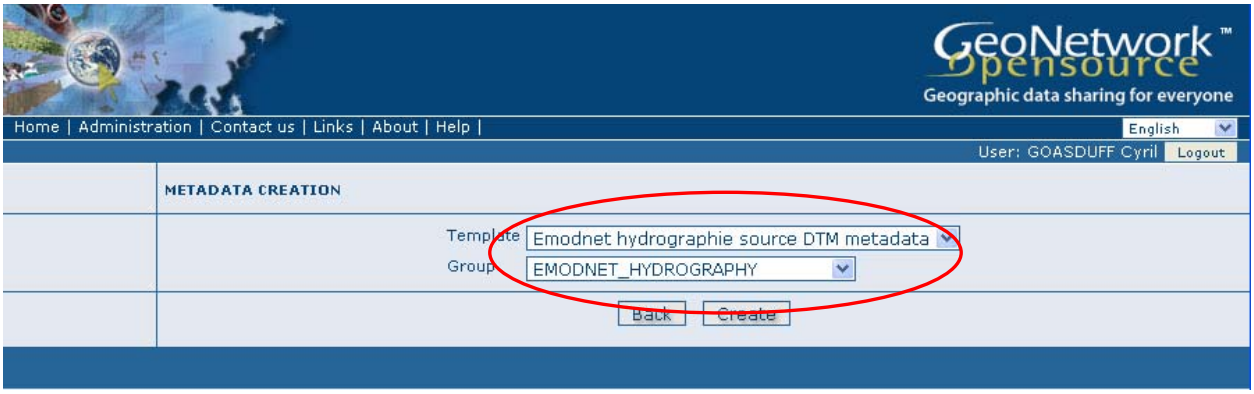

GeoNetwork opensource
Geographic data sharing for everyone
Home | Contact us | Links | About | Help |
English
Login
WHAT?
WHERE?
- Any -
Search
Show map
FIND INTERACTIVE MAPS, GIS DATASETS, SATELLITE IMAGERY AND RELATED APPLICATIONS
GEONETWORK'S PURPOSE IS:
To improve access to and integrated use of spatial data and information
To support decision making
To promote multidisciplinary approaches to sustainable development
To enhance understanding of the benefits of geographic information
GeoNetwork opensource allows to easily share geographically referenced thematic information between different organizations. For more information please contact

Figure 5. Metadata administration welcome page

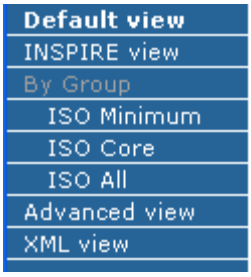
On the administration page, choose “New Metadata” and set your options as shown below


Administration page
GeoNetwork Opensource
Geographic data sharing for everyone
Home | Administration | Contact us | Links | About | Help |
English
User: atlas_charm atlas_charm
Logout
ADMINISTRATION
Metadata
New metadata
Adds a new metadata into geonetwork copying it from a template
Metadata insert
Import metadata record in XML or MEF format
Personal info
Change password
Allow current user to change password
Change user information
Allow current user to change user information
CSW ISO Profile test
Test interface for the CSW ISO Profile catalog interface



Step 2 Complete metadata in Sextant

Check you use the **default view** on the left side of the page.



Complete the form and check the default values.

A customized form has been designed for the description of DTM according to the specifications of both Geoseas and Emodnet hydrography projects.

Explanations to use appropriately the form are given in the legends of the below but a special attention must be given to the specific following points :

1) Short name of Data Set (SDN local product Identifier)

It is an identifier (gmd identifier) which plays a key role not only to exchange and transport datasets but also on the creation of DTMs according to the specifications of Geo-Seas and Emodnet Hydrography.

The creation of this ID is based on the same principles of the creation of the local Common Data Index (CDI) Identifier of SeaDataNet for survey Data Set .The ID is unique at the Data Center which manages the dataset.

In combining it with the EDMO (European Directory of Marine Organizations) identifier of the Data Center, the unicity is guaranteed in the catalogue as well as in the data source layer of the DTMs produced according to the specifications of Geoseas and Emodnet hydrography.

See example below :

EDMO Data center Identifier = "486".

Local identifier of the bathymetric grid (according to local rule of Data Center) = "IFR_MBAN_MEDITERRANEE_100_02_R".

Global identifier of DS in DTM = 486_IFR_MBAN_MEDITERRANEE_100_02_R.

Note Important ! the local identifier must not be more than 75 characters (this constraint comes from the field of the DTM NetCDF format used to keep track of the source of data).

2) Data set name (gmd title) : this is the title of the data set.

3) Abstract

Partners are strongly encouraged to complete well the ABSTRACT / SHORT SUMMARY with a free description what they have done to produce the (composite) DTM

4) Other fields

Mandatory fields have been defined not only in function of ISO and Inspire standards and Directive but also in function of the requirement of the projects. For example Min and max depth someone may consider useless to force providers to fill this field but it is a requirement to allow an automatic scaling of the colours when viewing DTM. Other fields are not mandatory because it depends on the dataset but they are all strongly recommended to allow data processing by the end users.

The adoption of a data model designed as closed as possible to the IHO S-100 one should allow a better separation between metadata required in the catalogue and the metadata required in the DTM dataset files in the coming NetCDF CF format of Geo-Seas. But it is not at present possible to reduce the list of metadata of the present form for existing datasets in format not designed for such complementarity.

The identifier is generated automatically using the 'catalogue type', the 'edmo id of the data holding center', and the 'short name of dataset' (SDN local product id).

Select the appropriate metadatatype : CPRD, PRODUCT, or IPRD

The element is necessary in the xml but is not mandatory to be complete

Red box : mandatory to complete

See the point below to complete the thumbnail

Classic multiple selection (use "ctrl" key to select many instruments)

Mandatory to complete or to delete with the cross

Complete using the suggestion

Note :
This field is very important and must be field according to the EMODnet Hydrography and Geoseas specifications

Mandatory to complete or to delete with the cross

Quality / Accuracy / Calibration :

Hor. accuracy

Measure description

Quantitative value *

Evaluation method description

Vert. accuracy

Measure description

Evaluation method description

Shoal bias — yes/no

Suitability, Expected type of users / uses and limitations :

Use limitation

Intellectual property :

Use limitation

Access constraints — License

Use constraints — Copyright

Other constraints (Insert references here)

Creation date of dataset * Clear

Revision date of dataset * Clear

Use a calendar to complete

Where

Spatial resolution

Average Hor. Res. *

Unit — SDN:P061:38:ULAA = Metres (m) (Suggestions:)

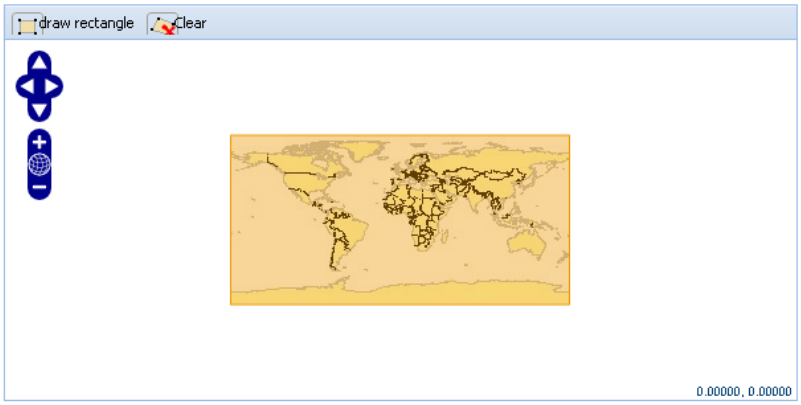
Geographical area name *

Geographic bounding box

WGS 84

North bound * 90.00000

draw rectangle | Clear



West bound * -180.0000

East bound * 180.00000

South bound * -90.00000

Choose a predefined area, select the area on the map or complete the 4 bounds

Depth (in meters)

Min depth *

Max depth *

If default value must be changed, use the binoculars and after delete the default CRS
Note : this list is not an SDN one for consistency with Inspire and SIG. SDN list have to be updated

Coordinate Reference System (CRS)
Code * WGS 84 (EPSG:4326)
Codespace EPSG (Suggestions:
Version 7.4

User defined projected Coordinate Reference System (CRS)
Geodetic system / projection *
Description
Map projection parameters, values and units :
Axes units :

Copy the code of the CRS defined above if you completed it

Vertical datum * SDN:L111:7:D01 = Lowest Astronomical Tide

When

Start date * Clear
End date * Clear

Temporal resolution
Time
Unit (Suggestions:)

Who

Originator
Organisation name SDN:EDMO::EDMO id = EDMO name
Electronic mail address

Data Holding Center
Organisation name SDN:EDMO::EDMO id = EDMO name
Electronic mail address

Complete the organisation name like **SDN:EDMO::**Edmo_id = Edmo_Name. For example, **SDN:EDMO::**486 = Ifremer

Where to find

Data distributor center * SDN:EDMO::EDMO id = EDMO name

Distribution format
Distribution Format *
Version *
Description

Dataset size *

Accessing/ordering Website

Accessing/ordering Website
URL *
Protocol Web link (URL)
Name of the resource
Description
Function Download

For OGC services, select the appropriate protocol : WMS…

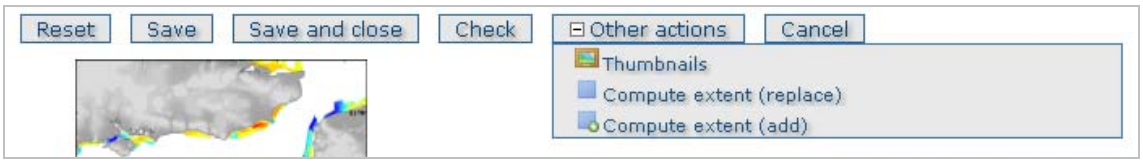
Collating Centre = Metadata author
Organisation name SDN:EDMO::EDMO id = EDMO name
Electronic mail address

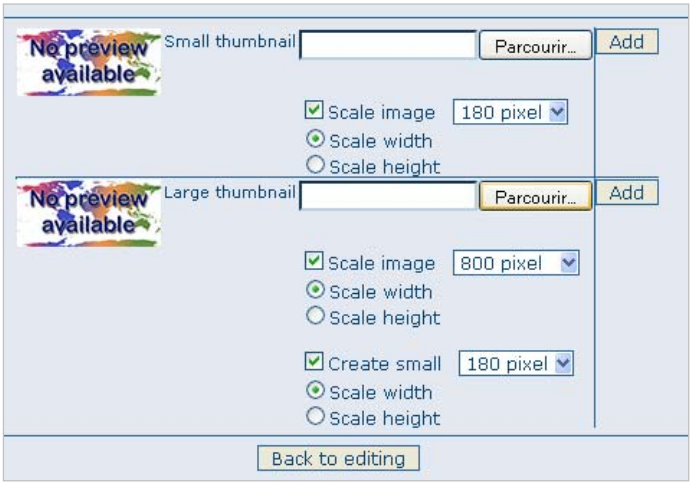
Type Metadata
Reset | Save | Save and close | Check | Other actions | Cancel

Thumbnail management:

To complete the metadata you also need to add a **thumbnail** of the data.
Complete the label below with an url

or access to the thumbnail page. It is from the top of the editing page: “Other actions > Thumbnails”.





Get your image (jpg/png) from the button ‘Parcourir’ (‘Browse’ in English) then Add it. You can get back to editing. Complete mainly the ‘Small thumbnail’.

When you save (the first case) or click on ‘Back to editing’ button (the second one), you can see your thumbnail at the top of the form.

Privileges and categories management:

Finally you have to set the **privileges** and the **category** to your metadata. It is really important to do it right after creating/editing the metadata so that this important step (to simplify the search of future users/partners) will not be forgotten.

Close your metadata (Save and close) and click Other actions from the top or the bottom of the page and choose what you want to edit.

The categories still need to be translated.

About the privileges you have to at least check all rights for your group (EMODNET_HYDROGRAPHY). You can decide later if your data is to be publicly available.

You can do this management on Sextant (see the part 3).

Step 3 Send your data to the Sextant team (only for partners using Sextant as a data repository eg Ifremer laboratories).

Once the metadata completed in Sextant, transfer the data, vector or raster to the Sextant team (sextant@ifremer.fr) with a table indicating the name of the data and the one of its metadata. It is the Sextant team that loads the data online and links it to the metadata.

Example of the table:

Exact title of the metadata	Name(s) of the data(s) associated

Memo:

To unfold or add the different elements always click the ⊞ button.

On the opposite click the ☒ button to delete an element or a block.

All red fields are mandatory.

Use the suggestion when you can.

Use the binoculars when you can to add the rigth element and do not forget to deleted the default one

3 Sextant data management

1.Access and rights

To manage a metadata set, you need to access the portal through the Extranet:eg :

http://www.ifremer.fr/sextant/en/web/emodnet_hydrography

Then you need to be logged in and search your metadata (see part 1).

Now you can see the button 'Administrer' ('Manage' in English) when the metadata is shown. This button enables you to edit the privileges of the metadata (see point 2 below), edit the categories of the metadata (see point 3 below), edit the metadata with the same form as in the creation (see part 2, step 2), or delete the metadata.

Imagette non disponible
EMODNET-IFR-WESTMED-DTMBATHY-2011
DTM processed in the framework of the Emodnet project. Grid spacing : a quarter minute Partners : Ifremer, Shom, IEO, Ismar,...
Administrer
Administrer
éditer les privilèges
éditer les catégories
éditer la métadonnée
supprimer la métadonnée
Manage
Edit privileges
Edit categories
Edit metadata
Deleted metadata
AP n° 28/99 du 01/04/19
AP n° 28/99 du 01 avril 1999
au large du département de
Source : DPMA, Terra Maris, Ifre
de côtière des 3 milles
e la Seine.

2. Privileges

Editors assign privileges for each metadata set. When you create a new metadata set, all the privileges are automatically checked for your own group (EMODNET_HYDROGRAPHY). Every new metadata created is automatically published and visible for your group (EMODNET_HYDROGRAPHY). Therefore it is important to check that all privileges are set to the EMODNET_HYDROGRAPHY group after creating new metadatas (Figure 6).

There are 4 types of privileges.

- Publish: Users of the group are able to see the metadata and export it into pdf or xml files.
- Download: Users of the group are able to download the data.
- Interactive Map: Users of the group are able to get an interactive map in the Geoviewer.
- Editing: Administrators of the group can edit the content of the metadata.

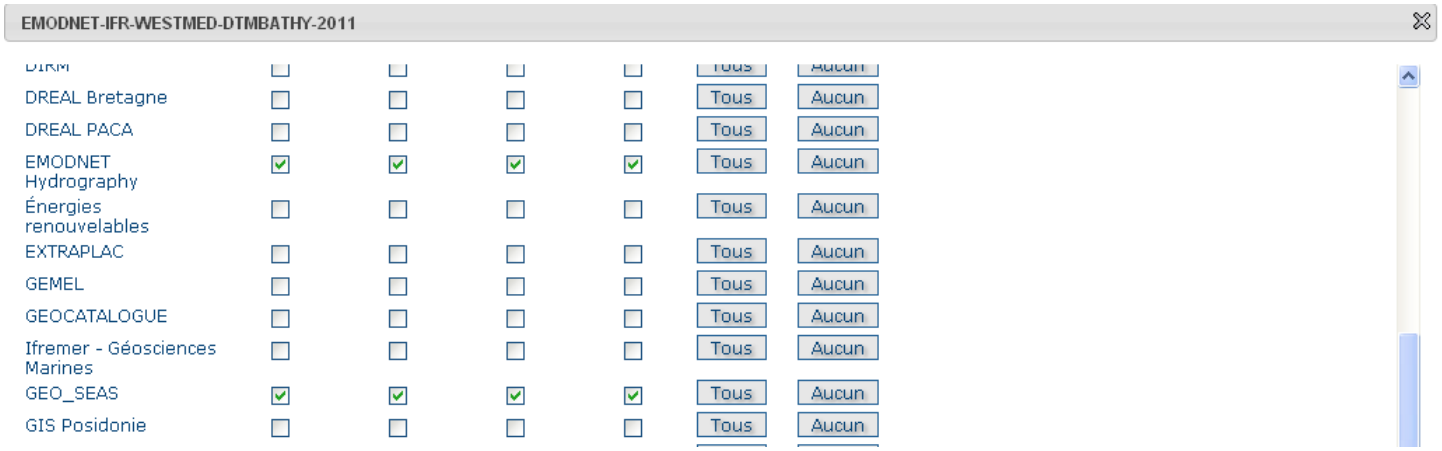


Figure 6. Editing layers' privileges

In addition, it is possible to give privilege to other catalogues. This is the case in the exemple of figure 5 where same privileges have been given both to the Emodnet metadata dataset and to the Geo-Seas one. This way avoids to duplicate metadata sets when they must be shared by several catalogues.

3. Categories

A category must be associated to each metadata depending on the type of activities or discipline concerned . Only one category is assigned by metadata set. It is possible to create a new category. In the cases of the Emodnet and Geoseas catalogues, the category to select is "**/Milieu physique/Bathymétrie/MNT" (in English : "Physical environment/Bathymetry/DTM")**

4. Sextant helpdesk

If any problem when using Sextant, you can contact the Sextant team sextant@ifremer.fr .

Your question will be routed toward the appropriate person.